

Phoenix MSA TERM Report

Training & Education Resource Model

Score = average of the five percentiles, using weights 3, 3, 1, 1, 1
see notes for explanations of each column

			P e r c e n t i l e s						Labor Market Data					BLS Ed & Train Code
Rank	CIP Code	CIP Title	Score	Open-ings	Wage	ONET	Growth rate	Turn over ratio	Open-ings	Hourly Wage	ONET Score	Growth Rate %	Turn over ratio	
1	51.16	Nursing	87.6	94	87	94	74	78	2607	22.28	653	11.2	3.3	6.9
2	46.03	Electrical and Power Transmission Installers	80.3	87	60	97	98	86	1213	17.99	661	15.7	3.9	9.2
3	51.09	Allied Health Diagnostic, Intervention, and Treatment Professions	78.6	75	73	92	87	83	747	19.70	634	12.8	3.7	7.1
4	52.02	Business Administration, Management and Operations	77.2	86	88	88	35	48	1118	22.65	619	6.5	1.7	8.0
5	51.06	Dental Support Services and Allied Professions	75.5	67	74	78	88	90	455	19.82	594	12.8	4.0	9.1
6	15.05	Environmental Control Technologies/Technicians	74.2	61	66	98	91	98	314	18.57	668	14.2	5.5	9.1
7	46.05	Plumbing and Related Water Supply Services	73.6	84	56	73	92	77	1054	16.97	577	14.3	3.2	9.4
8	47.02	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	72.3	53	65	99	100	100	224	18.57	721	16.6	7.2	9.0
9	46.01	Mason/Masonry	71.2	82	53	42	99	97	893	16.35	511	15.9	5.2	9.2
10	43.01	Criminal Justice and Corrections	69.4	90	54	91	49	52	2065	16.59	632	7.9	1.8	9.9
11	46.02	Carpenters	68.9	95	44	34	86	84	2843	15.30	490	12.6	3.7	9.3
12	52.99	Business, Management, Marketing, and Related Support Services, Other	68.3	80	91	39	31	32	879	23.09	508	6.1	1.5	9.3
13	22.03	Legal Support Services (NEW)	67.6	62	77	37	60	92	366	20.17	498	8.8	4.5	6.8
14	46.04	Building/Construction Finishing, Management, and Inspection	66.8	96	37	20	95	89	3911	14.53	460	14.8	4.0	9.9
15	31.05	Health and Physical Education/Fitness	66.8	43	90	72	65	65	135	23.00	576	9.4	2.3	7.9
16	43.02	Fire Protection	66.4	55	86	100	48	27	246	22.27	740	7.7	1.3	8.7
17	52.19	Specialized Sales, Merchandising, and Marketing Operations (NEW)	65.8	78	78	49	33	39	858	20.22	541	6.2	1.5	9.1
18	14.18	Materials Engineering	64.4	19	96	83	78	73	33	25.98	607	11.5	2.8	8.0

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18	14.19	Mechanical Engineering	64.4	19	96	83	78	73	33	25.98	607	11.5	2.8	8.0
18	14.33	Construction Engineering (NEW)	64.4	19	96	83	78	73	33	25.98	607	11.5	2.8	8.0
18	14.36	Manufacturing Engineering (NEW)	64.4	19	96	83	78	73	33	25.98	607	11.5	2.8	8.0
18	52.01	Business/Commerce, General	64.4	19	96	83	78	73	33	25.98	607	11.5	2.8	8.0
23	52.15	Real Estate	64.3	63	100	51	15	23	396	34.08	543	4.6	1.2	7.3
24	15.1	Construction Engineering Technologies	64.2	31	89	80	69	68	70	22.77	598	10.0	2.5	6.9
25	51.07	Health and Medical Administrative Services	63.0	89	46	41	54	66	1961	15.70	511	8.3	2.3	9.2
26	13.13	Teacher Education and Professional Development, Specific Subject Areas	62.4	59	47	89	84	69	305	15.87	622	11.6	2.7	7.8
27	51.08	Allied Health and Medical Assisting Services	62.2	83	25	61	85	91	972	12.60	564	12.5	4.4	8.9
28	46.99	Construction Trades, Other	62.1	91	31	2	94	96	2400	13.52	379	14.4	5.0	9.7
29	30.16	Accounting and Computer Science (NEW)	61.2	34	85	71	42	80	97	21.63	575	6.9	3.3	6.0
30	47.06	Vehicle Maintenance and Repair Technologies	60.9	77	59	70	40	29	856	17.51	572	6.8	1.4	7.6
31	15.08	Mechanical Engineering Related Technologies/Technicians	60.8	68	57	90	45	38	474	17.24	622	7.3	1.5	6.8
32	49.02	Ground Transportation	60.7	92	45	38	34	61	2471	15.33	506	6.4	2.2	10.4
33	52.09	Hospitality Administration/Management	60.3	57	61	86	43	59	262	18.02	609	7.3	2.1	8.5
34	1.01	Agricultural Business and Management	60.1	71	68	46	28	51	575	19.33	532	5.7	1.7	8.4
35	19.02	Family and Consumer Sciences/Human Sciences Business Services	59.7	49	63	68	61	70	191	18.55	571	9.0	2.8	8.0
36	15.12	Computer Engineering Technologies/Technicians (NEW)	59.6	51	82	63	19	57	195	21.32	568	5.1	2.1	6.0
37	52.17	Insurance (NEW)	58.7	72	72	45	20	30	674	19.62	522	5.3	1.4	9.7

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38	51.15	Mental and Social Health Services and Allied Professions	58.5	58	29	74	97	95	275	13.04	582	14.9	4.8	10.0
39	49.01	Air Transportation	56.8	47	99	13	13	46	171	29.02	443	4.5	1.6	8.8
40	52.04	Business Operations Support and Assistant Services	55.2	98	28	26	41	53	8846	13.00	464	6.9	1.8	10.6
41	15.02	Civil Engineering Technologies/Technicians	54.9	24	75	76	57	62	37	19.90	590	8.6	2.2	6.0
42	48.08	Boilermaking/Boilermaker (NEW)	54.5	24	80	28	96	56	37	20.29	479	14.9	2.0	9.0
43	47.03	Heavy/Industrial Equipment Maintenance Technologies	54.2	65	43	87	51	28	398	14.78	611	8.1	1.4	10.2
44	9.09	Public Relations, Advertising, and Applied Communication (NEW)	54.1	39	76	48	39	55	114	20.13	540	6.8	1.9	10.0
44	48.05	Precision Metal Working	54.1	81	42	31	47	41	890	14.78	486	7.6	1.6	9.6
46	51.26	Health Aides/Attendants/Orderlies	53.4	76	5	69	73	94	795	9.79	571	11.0	4.7	11.0
47	4.09	Architectural Technology/Technician (NEW)	53.2	30	71	77	56	42	56	19.53	594	8.6	1.6	7.0
48	11.03	Data Processing	52.9	45	69	54	17	63	145	19.39	553	5.0	2.3	7.3
49	13.12	Teacher Education and Professional Development, Specific Levels and Methods	52.6	66	16	40	89	99	408	11.73	509	13.6	6.7	7.4
50	52.16	Taxation	50.5	9	92	3	68	81	22	24.41	382	9.7	3.3	10.0
51	1.06	Applied Horticulture/Horticultural Business Services	50.4	97	12	15	66	47	4126	11.46	447	9.5	1.6	10.7
52	52.18	General Sales, Merchandising and Related Marketing Operations (NEW)	49.8	99	15	29	59	18	10714	11.62	480	8.7	1.0	10.8
53	51.18	Ophthalmic and Optometric Support Services and Allied Professions	49.7	52	22	53	90	85	214	12.30	552	13.7	3.9	9.8
54	15.13	Drafting/Design Engineering Technologies/Technicians (NEW)	49.5	46	70	75	12	10	151	19.44	590	4.4	0.8	7.0
54	47.01	Electrical/Electronics Maintenance and Repair Technology	49.5	70	55	33	14	24	525	16.79	490	4.6	1.2	8.0

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54	52.03	Accounting and Related Services	49.5	88	34	19	22	37	1593	14.09	459	5.6	1.5	10.0
57	19.07	Human Development, Family Studies, and Related Services	47.8	73	2	52	71	82	701	8.69	546	10.8	3.5	9.7
58	15.03	Electrical Engineering Technologies/Technicians	47.6	35	81	60	8	12	98	21.01	562	3.2	0.8	6.0
59	12.03	Funeral Service and Mortuary Science	46.1	3	84	96	37	22	12	21.58	661	6.6	1.2	6.0
60	15.11	Engineering-Related Technologies	44.1	24	51	55	82	34	37	16.31	555	11.5	1.5	10.0
60	45.07	Geography and Cartography	44.1	24	51	55	82	34	37	16.31	555	11.5	1.5	10.0
62	19.09	Apparel and Textiles	44.1	12	83	67	27	19	30	21.36	571	5.7	1.1	8.0
63	12.05	Culinary Arts and Related Services	43.8	100	1	23	55	14	13048	8.19	462	8.5	0.9	10.7
64	51.1	Clinical/Medical Laboratory Science and Allied Professions	43.2	42	32	65	53	49	130	13.77	570	8.2	1.7	7.3
65	1.02	Agricultural Mechanization	42.7	40	58	66	10	15	117	17.36	570	3.7	0.9	7.7
66	52.08	Finance and Financial Management Services	42.5	85	23	25	18	17	1102	12.42	463	5.0	1.0	10.9
67	19.05	Foods, Nutrition, and Related Services	42.5	69	19	43	44	31	506	12.13	512	7.3	1.4	8.6
68	15.07	Quality Control and Safety Technologies/Technicians	42.4	54	35	62	26	26	232	14.12	566	5.7	1.3	10.0
69	47.99	Mechanic and Repair Technologies/Technicians, Other	40.9	16	62	0	72	60	33	18.31	344	11.0	2.1	10.0
70	13.15	Teaching Assistants/Aides	40.3	74	3	12	52	67	729	9.13	436	8.2	2.4	11.0
71	15.99	Engineering Technologies/Technicians, Other	37.6	14	67	32	29	35	31	19.02	488	5.8	1.5	6.0
72	47.04	Precision Systems Maintenance and Repair Technologies	36.1	27	24	27	70	76	40	12.45	476	10.6	2.8	7.8
73	25.03	Library Assistant	35.1	44	26	47	46	13	143	12.65	534	7.4	0.9	11.0
74	50.03	Dance	34.6	14	49	35	75	11	31	16.09	495	11.3	0.8	8.0

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Rank	CIP Code	CIP Title	Score	Open-ings	Wage	ONET	Growth rate	Turn over ratio	Open-ings	Hourly Wage	ONET Score	Growth Rate %	Turn over ratio	
75	19.06	Housing and Human Environments	32.7	10	48	9	58	54	23	16.00	411	8.7	1.9	9.0
76	10.03	Graphic Communications (NEW)	30.6	56	30	4	6	6	247	13.14	386	2.9	0.7	10.0
77	1.05	Agricultural and Domestic Animal Services	29.9	29	4	44	67	58	54	9.54	516	9.6	2.1	11.0
78	9.04	Journalism	29.0	6	39	58	24	44	16	14.54	560	5.6	1.6	9.0
78	50.01	Visual and Performing Arts, General	29.0	6	39	58	24	44	16	14.54	560	5.6	1.6	9.0
78	50.06	Film/Video and Photographic Arts	29.0	6	39	58	24	44	16	14.54	560	5.6	1.6	9.0
81	12.04	Cosmetology and Related Personal Grooming Services	28.3	60	6	24	11	20	310	9.90	463	4.2	1.2	7.0
82	1.08	Agricultural Public Services (NEW)	27.5	4	41	95	9	9	16	14.55	654	3.6	0.7	9.0
83	10.02	Audiovisual Communications Technologies/Technicians (NEW)	25.6	32	20	17	30	25	74	12.26	454	5.9	1.3	10.2
84	44.02	Community Organization and Advocacy	24.7	37	33	6	3	3	99	13.86	394	1.7	0.3	10.0
85	50.04	Design and Applied Arts	24.0	14	27	16	38	40	31	12.83	450	6.7	1.5	10.0
86	1.04	Agricultural and Food Products Processing	23.8	38	13	30	16	16	105	11.52	485	4.8	1.0	10.7
87	30.19	Nutrition Sciences (NEW)	20.9	1	8	10	63	88	11	9.92	432	9.3	4.0	10.0
87	51.31	Dietetics and Clinical Nutrition Services (NEW)	20.9	1	8	10	63	88	11	9.92	432	9.3	4.0	10.0
89	48.07	Woodworking	20.0	41	14	5	4	5	118	11.52	388	2.4	0.5	9.4
90	1.03	Agricultural Production Operations	18.6	48	0	22	0	1	175	6.73	460	-1.5	0.0	11.0
91	43.99	Security and Protective Services, Other	18.5	28	10	14	32	8	46	10.78	445	6.2	0.7	10.6
92	11.06	Data Entry/Microcomputer Applications (NEW)	17.7	33	18	1	1	2	77	11.86	355	-0.1	0.1	10.0
93	48.03	Leatherworking and Upholstery	9.1	11	11	8	5	4	26	10.93	394	2.6	0.4	9.0
94	15.04	Electromechanical Instrumentation and Maintenance Technologies/Technicians	8.4	1	17	18	2	1	11	11.83	458	0.0	0.0	11.0

Explanations for Each Column of the TERM Report		
Column		Explanation
A	Rank	This is the rank of the CIP (Classification of Instructional Program) by percentile score as shown in column D. Tie scores get tie ranks. Sometimes scores appear to be a tie, but if carried out to more decimal places, are not. Such CIPs are not assigned tie ranks.
B	CIP Code	CIP (Classification of Instructional Programs) code as assigned by the U.S. Department of Education. See Sources note below for more details.
C	CIP Title	The title of the training program, as assigned by the U.S. Department of Education Classification of Instructional Programs.
D	Score	The score is a weighted average of columns E through I. The weights used are 3, 3, 1, 1, 1, respectively. See Calculation Method note below for more details.
E-I	Percentiles	These 5 columns are the percentile scores of the data in columns J through N. Percentiles scores are used to compute different types of data in the model. For example, wages in dollars and growth in percentages. Tie scores produce tie percentiles.
J	Openings	The projected number of openings (from growth + turnover) expected per year for the occupations within this CIP. If an occupation is contained in more than one CIP, its openings are distributed evenly among those CIPs. Projected openings based on 2004-2006 occupation projections.
K	Hourly Wage	The average of the wages of the occupations contained in this CIP, weighted by the number of openings in each occupation. Wages based on 2004 Occupational Employment Statistics (OES) survey.
L	O*NET Score	O*NET is an acronym for the Occupational Information Network (http://www.onetcenter.org/). This data is a measure of the skills, knowledge, and abilities required for the occupations within this CIP, weighted by the number of openings in each occupation. The numerical score for each comparative occupational descriptor in the O*NET Knowledge, Skills, and Abilities data files were summed for each occupation. See Sources note below for more information.
M	Growth Rate	The two-year projected rate of growth in employment of the occupations in this CIP, weighted by the number of openings in each occupation. This number could be negative but usually is not. Occupational growth rate is from the 2004-2006 Occupational Projections produced by the AzDES Research Administration.
N	Turnover Ratio	This is the projected number of annual openings due to growth divided by the projected number of annual openings due to replacement (like retirements, quits, promotions, etc.). Higher ratios indicate lower turnover. Based on the 2004-2006 occupational projections data.
O	BLS Education & Training Code	The job training and educational levels as assigned by the Bureau of Labor Statistics (BLS). See detailed descriptions of the BLS codes on page two of these notes. Note that a higher code number indicates a lower amount of education or training time.

Calculation method	
1	Hourly wages were calculated by dividing annual wages by 2080.
2	The O*NET score was first calculated by occupation using the SOC (Standard Occupational Code). The scores for each 6-digit SOC were calculated by averaging the scores for the 8-digit O*NET SOC's that comprise each 6-digit SOC.
3	The field of occupations was restricted to those whose BLS Training and Educational code was between 6 and 11 (occupations which require 2 years of training or less.) Note that the lower the training and educational time requirement, the higher the code numbers (see below).
4	Scores by CIP (Classification of Instructional Programs) (except openings) were calculated by taking an openings-weighted average of the occupations in the CIP. For occupations appearing in more than one CIP, openings were evenly distributed among the CIPs.
5	Percentiles were calculated for each statistic shown. In case of a tie, the same percentile was assigned to all CIP's involved in the tie.
6	The following formula determined the score for each CIP: $(3 \times \text{openings percentile} + 3 \times \text{wage percentile} + \text{O*NET percentile} + \text{growth percentile} + \text{turnover percentile}) / 9$
BLS (Bureau of Labor Statistics) Education and Training Codes	
1-5	Bachelor's degree and higher educational levels were not used for this project.
6	Associate degree
7	Post-secondary vocational training
8	Work experience in related occupation
9	Long-term on-the-job training
10	Moderate-term on-the-job training
11	Short-term on-the-job training
Sources	
1	Openings and wage data are produced by the Arizona Department of Economic Security, Research Administration, in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics. Wages are from the 2004 Occupational Employment Statistics (OES) survey, and openings are from the 2004-2006 occupational employment projections.
2	For the O*Net score, the O*Net database version 8.0 was used. (www.onetcenter.org/database.html)
3	CIP / SOC (Standard Occupational Classification) crosswalk source: National Crosswalk Service Center, Department of Education, Des Moines IA 50319, Telephone: 515-242-5034, E-mail: NCSC@ed.state.ia.us .
4	The education and training codes are from the Bureau of Labor Statistics (BLS) website at ftp://ftp.bls.gov/pub/special.requests/ep/optddata/optd0212.txt
Questions and Comments	
	Direct questions or comments to Rick Van Sickle, 602-542-6481, RVansickle@azdes.gov ; John Graeflin, 602-542-6492, JGraeflin@azdes.gov ; or Don Wehbey, 602-542-3686, DWehbey@azdes.gov at Research Administration, Az Dept of Economic Security.